

cc: A. J. Dahl - 353  
B. W. Karrh - N11400  
L. J. Papa - 269  
Pral File  
I.C.



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POLYMER PRODUCTS DEPARTMENT  
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August 21, 1981

TO: DR. Y. L. POWER - PPD, Parkersburg

FROM: S. S. STAFFORD *S. S. Stafford*

ANALYSIS OF BLOOD SAMPLES FOR PERFLUOROCTANOATE  
(Job No. S10-578; PRAL Nos. 81-3291-3332; Notebook Nos. E22514, E26238)

As requested in your letter of 7/28/81 to L. J. Papa, 40 of the blood samples submitted then have been analyzed for perfluorooctanoate (C<sub>8</sub>) by the usual gas chromatographic method ES-567. Results and sample identification are given in the attached table.

Results for the remaining two samples in that group (81-3293, L. Strahler, and 81-3309, W. Powell) will be reported along with those for the samples submitted 8/11/81.

Attachment  
jah

Key Words:  
Perfluorooctanoate  
GC  
Blood Analysis

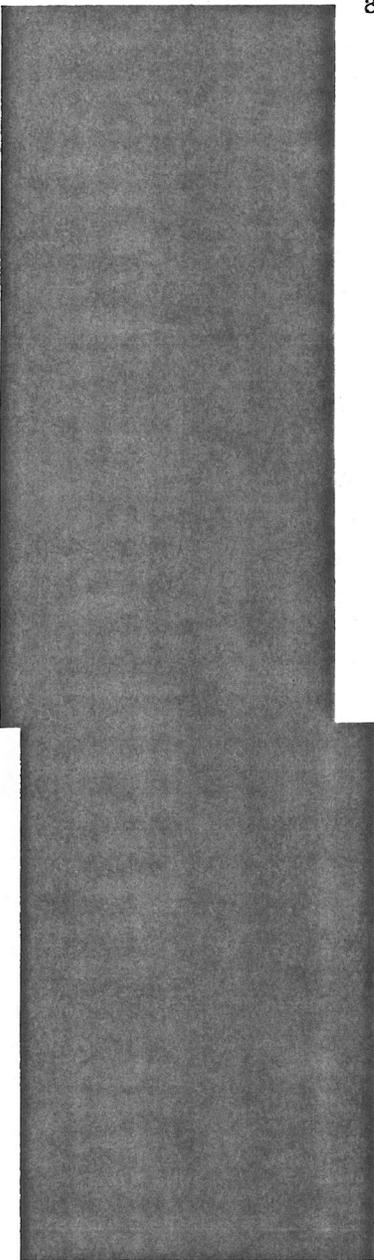
There's a world of things we're doing something about

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TABLE I

CONCENTRATION OF PERFLUOROOCCTANOATE IN BLOOD (a)

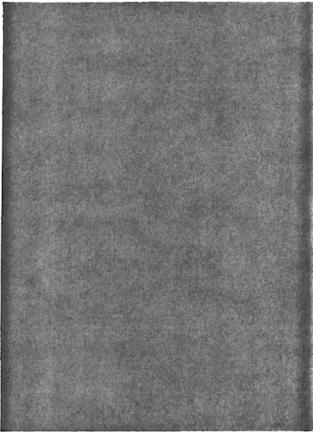
Sample PRAL No.	Date Sampled	P.R.No.	Name	GC Analysis (b)	
				Date Analyzed	[CR], ug F/g bloc
81-3291	7/1/81	4678		8/11 & 8/13/81	0.20
81-3292	7/6/81	4661		3/11/81	0.024
81-3294	7/13/81	1702		8/11/81	0.15
81-3295	7/13/81	W.S.		8/12/81	0.077
81-3296	7/13/81	W.S.		8/12/81	0.068
81-3297	7/14/81	1913		8/12/81	0.35
81-3298	7/14/81	W.S.		8/12/81	0.40
81-3299	7/14/81	W.S.		8/12/81	2.1
81-3300	7/15/81	W.S.		8/12/81	0.19
81-3301	7/15/81	1759		8/12/81	0.17
81-3302	7/15/81	W.S.		8/13/81	0.49
81-3303	7/15/81	3726		8/13/81	0.71
81-3304	7/15/81	4329		8/13/81	0.98
81-3305	7/16/81	4651		8/13/81	0.34
81-3306	7/16/81	3522		8/13/81	2.5
81-3307	7/16/81	4652		8/13/81	0.096
81-3308	7/16/81	4202		8/14 & 8/17/81	2.5
81-3310	7/17/81	1991		8/14/81	0.20
81-3311	7/17/81	3245		8/14/81	0.088
81-3312	7/17/81	3663		8/18/81	0.049
81-3313	7/17/81	W.S.		8/18/81	0.14
81-3314	7/17/81	W.S.		8/18/81	0.19
81-3315	7/20/81	3787		8/18/81	0.24
81-3316	7/20/81	W.S.		8/18/81	0.046
81-3317	7/21/81	8862		8/18/81	0.13
81-3318	7/21/81	W.S.		8/18/81	0.18
81-3319	7/21/81	4664		8/19/81	0.065
81-3320	7/21/81	3688		8/19/81	1.2
81-3321	7/22/81	4105		8/19/81	0.42
81-3322	7/22/81	3190		8/19/81	0.50
81-3323	7/22/81	4451		8/19 & 8/20/81	1.2

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TABLE I

CONCENTRATION OF PERFLUOROCTANOATE IN BLOOD (a)

<u>Sample</u>				<u>GC Analysis</u> (b)	
<u>PRAL No.</u>	<u>Date Sampled</u>	<u>P.R.No.</u>	<u>Name</u>	<u>Date Analyzed</u>	<u>[C<sub>8</sub>], <math>\mu</math>g F/g blood</u>
81-3324	7/22/81	4452		8/19/81	0.62
81-3325	7/23/81	W.S.		8/19/81	0.076
81-3326	7/24/81	3590		8/19/81	0.17
81-3327	7/24/81	4673		8/19/81	0.76
81-3328	7/24/81	W.S.		8/19/81	0.33
81-3329	7/24/81	W.S.		8/20/81	0.062
81-3330	7/24/81	4647		8/20/81	0.31
81-3331	7/24/81	W.S.		8/20/81	0.045
81-3332	7/24/81	W.S.		8/20/81	0.21
81-1843	4/27/81	4678		8/13/81	0.032 (c)

(a) Analysis as described in Lab Method ES-567 ("Determination of Perfluorooctanoic Acid in Blood, Gas Chromatographic Method", S. Stafford, 4/3/81), using the packed column GC analysis with perfluoro-n-octanoic acid as calibration standard.

(b) Although the analysis is specifically for perfluorooctanoate (acid or salts), concentrations are given in ppm fluorine for comparison with the results of total organic fluorine analyses. (ppm F = 0.688 x ppm perfluorooctanoic acid) Estimated uncertainty is  $\pm$  10% relative standard deviation. The lower limit for quantitation is 0.007  $\mu$ gF/g. The detection limit is  $\sim$  0.004  $\mu$ gF/g, but concentrations in that range cannot be well quantitated and are reported as < 0.007. None detected (n.d.) is reported for samples with [C<sub>8</sub>]  $\lesssim$  0.004 ppm, which cannot be distinguished from reagent background.

(c) Previously analyzed sample, re-analyzed for comparison with repeat sample 81-3291; result of the initial analysis (5/6/81) on 81-1843 was 0.031.

\*REDACTED\*

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